

Pre-
read

Instruction Book

ELNA
Supermatic

1. Elnagraph Cover.
2. Spool Pin.
3. Elnagraph Axle.
4. Pressure Regulating Dial.
5. Thread Take-up Lever.
6. Front Cover.
7. Upper Thread Tension.
8. Needle Clamp.
9. Presser Bar.
10. Presser Foot Thumb Screw.
11. Free Arm.
12. Base.
13. Bobbin Winder.
14. Bobbin Winder Stop.
15. Stitch Length Stops.
16. Stitch Length Regulating Lever.
17. Flywheel.
18. Needle Centering Wheel.
19. Stitch Width Regulating Lever.
20. Upper Casing (Arm).
21. Knee Control Lever.

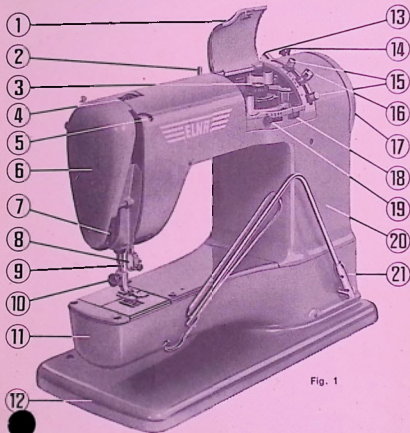
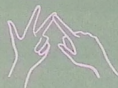


Fig. 1

Useful Hints



Preparing the ELNA
Unpacking - Standard
Accessories - Electrical
Equipment - Maintenance -
Presser Feet - Thread -
Winding the Bobbin -
Inserting the Bobbin -
Needles - Threading
the Machine.



Adjusting the ELNA

Pressure of Presser Feet -
Automatic Control - ELNA-
GRAPH - "Elna-discs" - Length
and Width of Stitches - Centering
- Thread Tensions.

Conversion of the Carrying Case into a Working Table

Working with Standard Accessories

Practical Work without

"Elna-discs":

Straight Sewing - Hemming -
Darning.

Decorative Work without "Elna-discs":

Pearl Stitch - Small Cord Stitch -
Shaded Embroidery - Satin
Stitch.

Sewing with "Elna-discs":

Overcasting - Tricot Stitch -
Buttonholes - Sewing on Buttons -
Twin-Needle Clamp.

Working with Extra Accessories

Use of Simple "discs" and
Double "discs" - Cording Foot -
Felling Foot - Braiding Foot -
Extra Hemmer Feet - Gathering
Foot - Zipper Foot - Tucker
Foot.

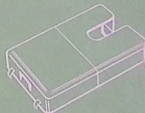


Chart:

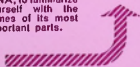
How to Prepare the ELNA
for Different
Sewing Jobs



Minor Disorders
and their Remedies

To make sure that you obtain the most satisfactory results when using your ELNA, it is extremely important, and in your own interest, that you read through this guidebook repeatedly.

Unfold this cover first and study the illustration of your ELNA, to familiarize yourself with the names of its most important parts.



Useful Hints



Preparing the ELNA
Unpacking - Standard Accessories - Electrical Equipment - Maintenance - Presser Feet - Thread - Winding the Bobbin - Inserting the Bobbin - Needles - Threading the Machine.

Adjusting the ELNA

Pressure of Presser Foot - Automatic Control ELNA-GRAPH - "Elna-discs" - Length and Width of Stitches - Centering - Thread Tensions.



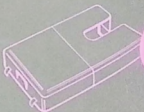
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Working with Extra Accessories

Use of Simple "discs" and Double "discs" - Cording Foot - Felling Foot - Braiding Foot - Extra Hemmer Feet - Gathering Foot - Zipper Foot - Tucker Foot.



Chart :

How to Prepare the ELNA for Different Sewing Jobs



Minor Disorders and their Remedies



The ELNA has been Designed to make Life Easier for the Housewife

Your new ELNA sewing machine is the result of many years of research, based on the excellent experiences made with the first model which was launched in 1940 and which introduced the following important innovations :

- the Free Arm,
- the Carrying Case which can be converted into a full-size sewing surface,
- the completely built-in Light and Motor,
- its Handiness, due to the choice of very resistant, lightweight metals.

In addition to these advantages, which have since been recognized and taken over by the majority of modern sewing machine manufacturers, the new

" ELNA - SUPERMATIC "

offers the unique improvement

of making it possible to do practical and decorative work of all kinds, with one or two needles, completely automatically,

thus surpassing by far the practical usefulness of ordinary zig-zag sewing machines.

The ELNA-SUPERMATIC is a household sewing machine, which, at the same time, offers the advantages of many special industrial sewing machines.

Useful Hints

1. Giving your machine the care it deserves, is your insurance for perfect performance.
2. Even the best sewing machine will not sew properly, if it is equipped with a poor quality needle. For this reason, choose needles of first class quality, and the style 15x1 (European system 705).
3. The needle and the thread must be adapted to the kind of work to be done.
4. Follow our recommendations carefully when you thread and prepare your machine for sewing.
5. First familiarize yourself with the simpler kinds of work, and only then take advantage of the numerous other possibilities offered by the ELNA.
6. A threaded machine must never be run, unless a piece of cloth is underneath the presser foot.
7. Never try to remedy a disorder, before first having consulted our recommendations (Pages 59-60).
8. Make use of our ELNA service as often as possible. We are at all times glad to be of assistance. If your machine needs any professional attention, get in touch only with our specially trained ELNA personnel, otherwise the guarantee will not be valid.

Now, let us set up our ELNA by following the Instruction Book page by page.

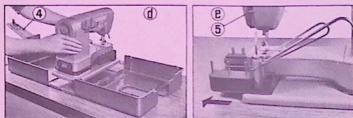


Unpacking

Fig. 2



- a) Remove the carrying case from the packing and lay it flat on the table. The machine is fastened to the case. With a screw driver, loosen the four screws (1) which are in the bottom of the case (they cannot be entirely removed).
- b) Place the case on the table, with the lateral draw latch (2) at the right. Open the two upper draw latches (3) first, then lift up the lateral draw latch (2) with the attached flap (4).
- c) Unfold the two sides of the case, holding the flap (4) with the left hand, so that it will not fall on the machine.



- d) Remove the ELNA by lifting it out with both hands ; set it up on the table to finish unpacking it.
- e) Remove the accessory box (see arrow).

When repacking the machine, place the opened case on the table (d), with the flap (4) at the left. Place the ELNA in the case. Raise the two sides ; first close the flap (4) and then the two upper draw latches (3).

Do not throw away the packing material ! It will be very useful, should you later wish to ship your machine somewhere. Then do not forget to tie the knee control lever to the free arm and to the bar (5) located on the front cover with a soft string, and to secure the machine inside the carrying case by fastening the four screws (a-1) which are on the underside of the case bottom.

Accessories

Your ELNA accessory box contains the following accessories :

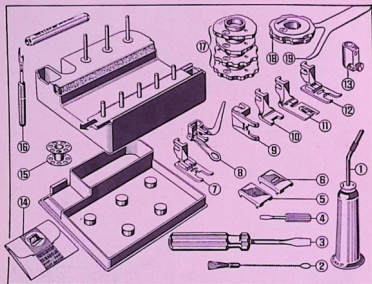


Fig. 3

For Care of the Machine :

- 1. 1 Oil Can
- 2. 1 Cleaning Brush

For Operating the Machine :

- 3. 1 Large Screw Driver
- 4. 1 Small Screw Driver
- 5. 1 Darning Plate
- 6. 1 Button Plate
- 7. 1 Presser Foot (Hinged Foot)
- 8. 1 Darning Foot

- 9. 1 Cording Foot
- 10. 1 Button Foot
- 11. 1 Hemmer Foot "4" (5.32")
- 12. 1 Buttonhole Foot
- 13. 1 Twin-Needle Clamp
- 14. 1 Assortment of 10 Needles
- 15. 5 Bobbins
- 16. 1 Buttonhole Knife
- 17. 4 Simple "Elna-discs" 01, 02, 03 and 05
- 18. 1 Double "Elna-disc" 107
- 19. 1 "Disc" Lifter

"Elna-disc" 03 is inserted in the Elnagraph regulating device (see page 21).

Electrical Equipment and Starting the Machine

The Electric Cord.

Remove the plug from the base and unwind the electric cord. Do not yet connect it to the electric circuit.

Voltage.

Each ELNA bears a name plate (1), indicating the electrical characteristics of the machine. Make sure that the voltage (Volts) of the circuit you are using is the same as that indicated on this plate. At home, these indications can be found on the electric meter (not on the plugs). If, by any chance, the two should not correspond, do not connect the machine, but notify the nearest ELNA store as soon as possible. **Whenever you use the machine away from home, never forget to make the same check.**

Knee Control Lever.

Place the ELNA in the right hand corner of the table, nearest to you, so that the base is about 5 inches from the edge of the table. Grip the joint of the knee control lever and fold it down over the edge of the table (Fig. 4).

Connecting the Machine and Starting it.

Now connect the plug with the electric outlet. Press lightly with the right knee against the knee control lever. The ELNA will start running slowly. The more you move the lever to the right, the faster the machine will run.

Caution : The presser foot must always be raised when the machine is run without fabric.



Fig. 4

The Sewing Light

The Switch.

To turn the sewing light on and off, use the light switch (Fig. 4, Point 2).

Changing the Bulb.

Caution : Never touch the bulb, as long as the current is connected. The plug must first be pulled out.

Access to the light is obtained by pressing with the thumb against the first rib (1) of the grid (see arrow, Fig. 5). Lower the grid.

To remove the bulb, hold the grid with the left hand. With the other hand push the bulb all the way into its socket, turn it in the direction shown in Fig. 6, and pull it out. The lamp has a bayonet socket and must not be unscrewed.

Inserting the bulb is done by proceeding in a reversed sequence. Check whether the bulb is properly fastened.

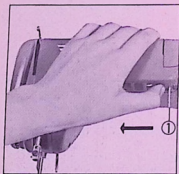


Fig. 5



Fig. 6

Maintenance

To assure that your ELNA will serve you faithfully for many years and give you complete satisfaction, it is very important that the following instructions concerning its maintenance are strictly followed. First pull out the plug from the electric circuit.

Preparation.

The different parts of the machine are very easily accessible, either for cleaning or for lubricating, provided the machine is prepared as follows :

- a) Open the shuttle cover (1) by pressing down on its rear edge ; then remove the needle plate (2) by lifting it from the rear.
- b) Lower the presser foot lever (3) and turn the front cover towards the rear (see arrow).
- c) Open the Elnagraph Cover by lifting it up.

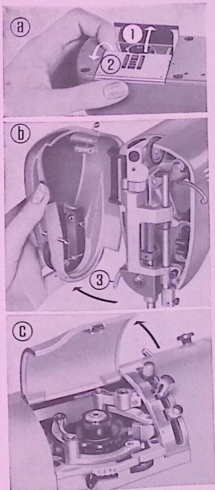


Fig. 7

Proper Oiling

Just as any type of precision machinery, a sewing machine must be oiled regularly and carefully, to prevent premature wear and to assure that it always functions smoothly.

The ELNA should be oiled every day it is used ; before sewing, and not after having finished working with it.

The lubrication chart on page 11 indicates all oiling points.

The mechanism of the ELNA should **only be lubricated with ELNA Oil** which guarantees perfect performance and prevents the parts from becoming gummed.

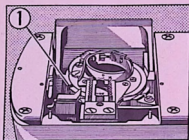


Fig. 8

Every time the machine is used, a drop of ELNA oil should be put into each of the oil holes shown in the lubrication chart on page 11. The oiling points have been painted red on the machine.

The rotary hook (point 11) is only to be oiled occasionally. To do so, turn the slot (1) of the rotary hook to the left by means of the fly-wheel (see fig. 8).

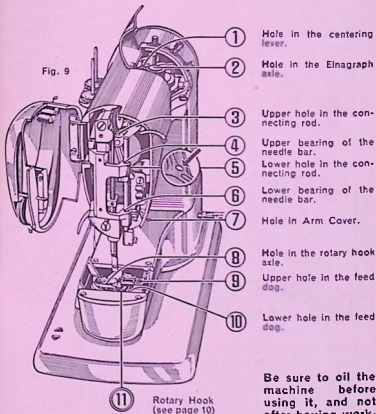
During cold weather, the ELNA should be placed in a heated room for a short while before being used. The oil, which has become thick and stiff, will thus fully regain its lubricating properties.

Lubrication Chart

The oil holes are painted red on the machine.

ELNA OIL (one drop)

Fig. 9



Be sure to oil the machine before using it, and not after having worked with it.

Cleaning

During the use of the machine, pieces of thread and lint accumulate around the rotary hook, in the feed dog and in the head of the machine. It is essential to clean these parts occasionally with the cleaning brush, which should be dry.

a) Rotary Hook and Feed Dog.

Remove the needle and the presser foot; after the rotary hook cover has been opened and the needle plate removed (see Fig. 7 a), brush the rotary hook and the feed dog carefully. To clean out pieces of thread which may in time have accumulated inside the rotary hook, it is recommended to clean the latter occasionally with the cleaning brush moistened with kerosene. Then race the machine for a few seconds,

without thread and with the presser foot raised. Oil the rotary hook again as explained on page 10.

Before replacing the needle plate, see that its seat is completely clean. Then place the plate over the two pins (1) which protrude from the free arm, press it down firmly until it snaps in place.

The correctly inserted needle plate will be flush with the cover of the free arm.

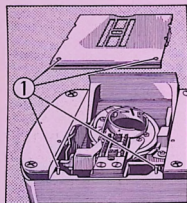


Fig. 10

b) Head of the Machine.

Open the front cover, after having lowered the presser foot lever and the Elnagraph cover (see Fig. 7 b and c). Remove pieces of thread and lint with the cleaning brush.

We also recommend that machines, which are used fairly often, be sent to the nearest sales office once every year for a thorough cleaning job by our specialists.

Changing the Presser Feet

The various presser feet, provided for certain kinds of work, are to be fastened to the cloth presser bar (1). To attach the feet, raise the presser bar by raising the presser foot lever (2). Loosen the presser foot thumb screw (3), choose the foot which is appropriate for the work to be done and place it, from the front, on the presser bar (the screw must go through the opening (4) of the foot). Tighten this screw, using the large screw driver, and make sure that the foot is securely attached to the presser bar. This operation is facilitated if the needle bar is in its highest position (Fig. 11).

The **darning foot** is the only exception, as it is brought into position from the rear, when the needle bar is in its lowest position. Take care that the lever (5) of the darning foot remains behind the stud (6) of the needle clamp (Fig. 12).

To avoid damage to the needle, always fasten the presser foot before inserting the needle.

The use of each type of the presser feet, and the different kinds of work that can be done with them, are explained from Page 30 onwards.

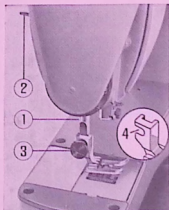


Fig. 11

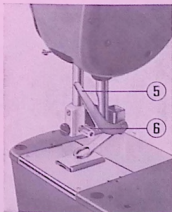


Fig. 12

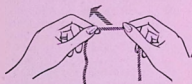
The Choice of Thread

Even the best of sewing machines cannot perform satisfactorily, if a thread is used which is either of poor quality or is not appropriate for the kind of work to be done.

It is, therefore, advisable to observe the following recommendations :

- a) **Use dull thread.** Glossy threads contain sizing material which will soon clog the mechanism. After washing, such threads do not wear as well.
- b) **For darning use left twist thread.**

Left twist :



Right twist :



Fig. 13

Hold thread as above. Turn thread over toward you between thumb and forefinger of right hand ; the strands will wind tighter.

Hold thread as above. Turn thread over toward you between thumb and forefinger of right hand ; the strands will unwind.

- c) **Choose a thread which corresponds to the kind of work to be done and a needle that suits the thread.** For fine thread a fine needle should be used ; with coarser thread, use a larger size needle.
- d) **When the thread is too dry it becomes brittle ; It regains its strength, if it is placed near an open window overnight.**

Winding the Bobbin

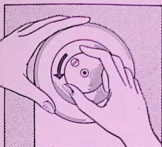


Fig. 14

Before you wind the bobbin, disengage the sewing mechanism from the flywheel by turning the coupling knob counter-clockwise in the direction of the arrow (Fig. 14).

Bring up the bobbin winder spindle (1) into a vertical position (see arrow in insert of Fig. 15). Place your spool of thread on one of the spool pins (2), so that the thread will run off the spool on the side facing the machine. Pass it through the thread guide (3)

and lead it back toward the spindle. Pull the thread through one of the small holes in the bobbin, from the inside (4). Place the bobbin on the spindle and **turn it slightly until it can be pressed all the way down.** While holding the protruding end of the thread, wind a few turns of thread on the bobbin by pressing against the knee control lever. Stop and cut off the loose end next to the bobbin. Continue winding the bobbin which, when full, will stop automatically, due to the bobbin winder stop. It is advisable to press lightly with the left hand against the top of the spool of thread as the thread will thus be wound tightly and evenly. When the bobbin has been fully wound, remove it and swing the bobbin winder spindle to the side. Then connect the sewing mechanism with the flywheel by turning the coupling knob clockwise in the direction opposite to that of the arrow (see Fig. 14). The machine will then be ready again for sewing.

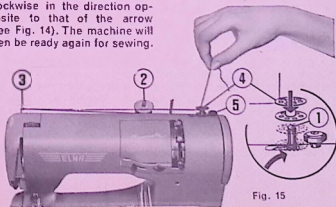
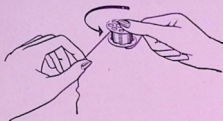


Fig. 15

Inserting the Bobbin



Open the rotary hook cover (1) by tilting it backwards.

Holding the bobbin in the right hand, pull the thread with the left hand in such a manner that it will unwind itself counter-clockwise (see arrow).

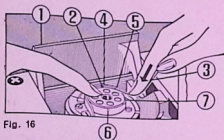


Fig. 16

Drop the bobbin into the shuttle ring. With the forefinger of the left hand press slightly upon the bobbin, and with the right hand insert the thread into the slot (2) of the shuttle ring; then draw it behind the shuttle ring toward the lower right (3) until it passes under the lower tension spring (4).

By pulling the thread slightly, check whether it is held back by the tension spring and passes underneath it with normal friction. Leave about 6 inches of loose thread hanging over toward the left.

For certain kinds of work the bobbin thread, after having passed underneath the lower tension spring, must also be passed from the groove (5) through the little hole (6). To do this, the needle plate must first be removed. To find out when this supplementary threading must be done, refer to the chart on the inside of the back cover which pertains to the different kinds of sewing.

To remove the bobbin, lift it at the opening (7) of the shuttle ring.

The Needle

The needle is one of the most important parts of the sewing machine. The proper execution of the work depends to a great extent on its quality. Consequently, only first grade needles should be used.

For the ELNA, needles of the style 15×1 (European system 705) are to be used exclusively. They are supplied in our needle assortment in sizes from 60 to 110.

The size of thread, which is suited to the kind of work to be done, should be determined first and then the size of the needle should be adapted to the thread. The following table will make this choice easier:

Needles style 15×1 (system 705) Sizes			Thread		Thread local grades	
New	Old	Ame- rican	Cotton	Silk	Cotton	Silk
60	7-8	00	140-150	30		
70	9-10	0	100-120	24-30		
80	11-12	B	80-100	24-30		
90	13-14	1/2	60-80	20		
100	15-16	1	40-60	16-18		
110	17-18	2	30-50	10-12		

Use left spun thread for darning (see Page 14).

Inserting the Needle.

Bring the needle to its highest position by turning the flywheel toward you. Loosen the needle clamp screw (1) slightly. With the flat side (3) toward the rear, push the needle up into the needle clamp (2) as far as it will go. Tighten the needle clamp screw again with the large screw driver.

Twin-Needle Clamp.

On pages 48 and 49 is explained how to attach the twin-needle clamp for sewing with two needles, how to thread and how to prepare the machine.

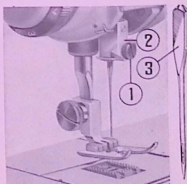


Fig. 17

Threading the Upper Thread

Turn the flywheel toward you (see arrow) until the thread take-up lever is in its highest position. Raise the presser bar lever (8), to release the upper tension for threading.

Place the spool of thread on one of the spool pins (1) so that the thread unwinds itself from the side nearest the machine. Pass the thread from below through the thread guide (2), then through one of the two openings of the upper thread tension (3); thread it, from left to right, through the hole of the thread take-up lever (4) and then pass it, from behind, through the two thread guides (5 and 6); the needle (7) should then be threaded from the front toward the rear.

Leave about 6 inches of loose thread hanging to the left, while the thread take-up lever still remains in its highest position.

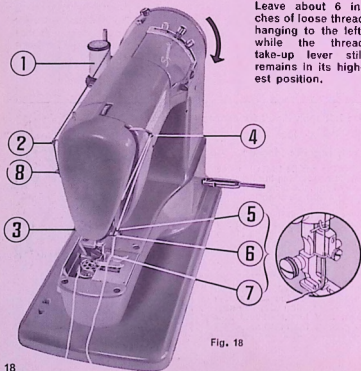


Fig. 18

Drawing up the Lower Thread

The presser foot should be raised, the thread take-up lever in its highest position, and the rotary hook cover open.

Hold the end of the upper thread (which hangs down from the needle) with the left hand, **without pulling it**, and turn the flywheel with the right hand toward you **until the thread take-up lever is again in its highest position**. Then pull up the upper thread which will cause the lower thread to be drawn up from the rotary hook (a).

Draw both threads well out of the needle hole and make sure that the lower thread crosses the bobbin correctly (b).

Close the rotary hook cover and pull both threads about 6 inches away from you, toward the rear underneath the presser foot. If the upper thread is pulled before the thread take-up lever is again in its highest position, the lower thread will not be drawn up properly and this will cause a poor stitch formation.

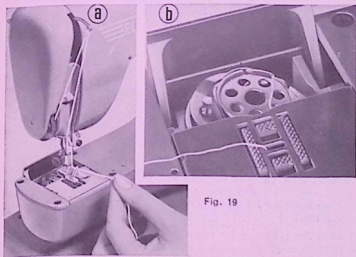


Fig. 19

Adjusting the Pressure of the Presser Feet

To make sure that the work is fed evenly, the pressure of the presser foot on the cloth must, in certain cases, be increased or diminished, depending on the type of fabric and kind of work to be done.

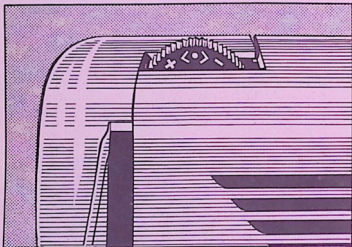


Fig. 20

This pressure is adjusted by means of the pressure regulating dial located on top of the machine (Fig. 20). The mark + <•> - indicates a normal pressure used for most kinds of work. By turning the dial to the right, in the direction of the mark > -, the pressure of the presser foot diminishes, whilst it is increased by turning the dial to the left, in the direction of the mark + <•>.

Reduce the pressure for sewing on sheer fabrics.
Increase the pressure for sewing on thick or stiff materials.

The Elnagraph Regulating Device

By using irregularly shaped discs, which are called "Elna-discs", the Elnagraph Regulating Device—the brain of the ELNA-SUPERMATIC—makes it possible to execute the most varied practical and decorative sewing jobs fully automatically.

By inserting an "Elna-disc" into the regulating device, and adjusting the parts described below, the ELNA produces, independently and fully automatically, any number of different stitches for which "discs" are available. All we have to do, is to guide the material.

The regulating device consists of the following parts :

- a) Elnagraph axle (1) on which the "disc" (2) is placed and fastened,
- b) stitch width regulating lever (3),
- c) stitch length regulating lever (4) with the two stops (5 and 6),
- d) centering wheel (7).

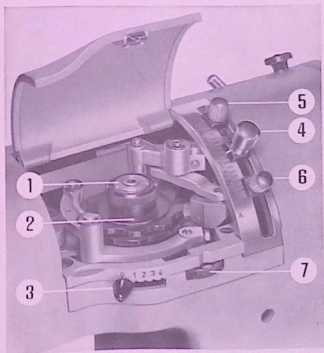


Fig. 21

The manner in which these four parts operate, is described on the following pages.

1. Inserting the "Elna-discs".

Either a simple "disc" (a) or a double "disc" (b) can be used. The simple "discs" operate only the stitch width automatically, whereas the double "discs" not only control the stitch width but also the feeding of the cloth.

With the large assortment of "discs" that exists, a multitude of practical sewing jobs and decorative designs can be done automatically which, on any other household sewing machine, would require a great deal of practice, or very often could not be performed at all.

Every machine is equipped with the simple "discs" 01, 02, 03, 05, and the double "disc" 107. Numerous other simple and double "discs" can be purchased separately.



Fig. 22

For inserting or changing the "discs", place first the stitch width regulating lever (3) and the stitch length regulating lever (4) on "0" (see Fig. 21); then remove the "disc" thumb nut (1), as shown in Fig. 23 a. Next place the simple or double "disc" which you selected for the work to be done (number and design are indicated on top of the "disc") on the Elnagraph axle (2) so that the pin (4) will enter the oblong hole (5) in the "disc". Replace the "disc" thumb nut (1) on the Elnagraph axle (2) and tighten it firmly by hand (Fig. 23 b).

To remove the "discs", set first the stitch width and stitch length regulating levers to "0" again, loosen and remove the "disc" thumb nut (1), then lift the "disc" out of the machine (Fig. 23c) with the aid of the "disc" lifter (6).

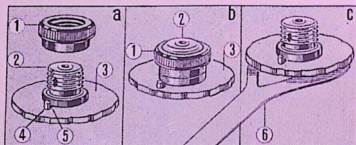


Fig. 23

2. Width of Stitch.

The stitch width lever regulates the width of the design which can be obtained with the type of simple "disc" inserted in the machine. If the stitch width regulating lever is set at "0", the machine will make a straight lockstitch seam.

By using the simple "discs" 01, 02, 03, or 05, which are supplied as standard accessories, the following stitches will be produced :

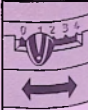
	ELNA- DISC	Position of the Stitch Width Lever				
		0	1	2	3	4
	01					
	02					
	03					
	05					

Fig. 24

As described on the following page, the length of stitch can be chosen as desired.

By using the various "discs", which may be purchased as extra accessories, it is possible to make many more useful and decorative stitches.

Important : It is not necessary to insert a "disc" for normal straight sewing. In this case it suffices to set the stitch width regulating lever at "0" and to choose the desired length of stitch. If there is no "disc" in the Elnagraph device, the stitch width regulating lever must always be set at "0".

3. Stitch Length.

The stitch length for forward or backward sewing can be adjusted to obtain stitches of equal (uniform) length. When using a double "disc", the stitch length regulating lever must be adjusted for automatic feed, whereby the stitch length becomes irregular (in accordance with the type of "disc" being used).

a) Uniform Feed (forward and backward).

To have the cloth fed uniformly, use the scale "4-0-4" at the upper right portion of the arm. For forward sewing, use the upper half "4-0" of the scale (see "I" in Fig. 25 a); for backward sewing, use the lower half "0-4" of this scale (see "II" in Fig. 25 a).

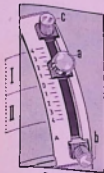


Fig. 25 a

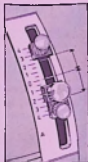


Fig. 25 b

To adjust the stitch length lever (a), simply move it to the desired position. For setting the two stitch length stops (c and b), loosen their knurled heads slightly. After they have been placed in the desired positions, tighten them again.

To set a particular stitch length, first move the two stops (c and b) to their extreme positions. Then set the stitch length regulating lever at the desired position.

if it is desired to obtain the same stitch length for forward and for reverse sewing (as, for instance, for strengthening the end of a seam), set the regulating lever at the required stitch length for forward sewing, then move the upper stop close against it and tighten its head. Then set the stitch length regulating lever at the same length for backward sewing, move the lower stop close against it and tighten its head firmly. In this manner, when you move the stitch length regulating lever, its movement will be limited between the two stops (see arrows in Fig. 25 b). When setting the stitch length regulating lever for reverse sewing, make sure that the needle is lowered into the material.

Important : The stitch length should be adapted to the thickness of the fabric and to the kind of work to be done. (Consult chart on inside of the back cover.)

b) Automatically varied Feeding of Cloth by using Double "Elna-discs".

Insert the "disc" which you have chosen for your work. To operate the automatically varied cloth feed, move down the lower stop (b) completely, then push down the stitch length regulating lever (a) until it snaps in at the letter "A" of the scale. The regular cloth feed is thus cut out and the feeding of the material is now guided by means of the "disc". It is not necessary to push down the upper stop. The width of the design can be varied by placing the stitch width regulating lever at 1, 2, 3 or 4. Never leave the stitch width regulating lever at "0"!

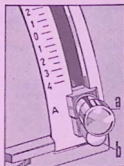


Fig. 26

To remove the stitch length regulating lever from the position "A", push down on its head and move it upward. The execution of this kind of work is described in detail on pages 47 to 52.

4. Centering the Needle.

The position of the needle bar can be changed by turning the centering wheel (No. 7 of Fig. 21). The center position is shown below under "b". To move the needle bar to the left, turn the centering wheel toward the left (a); to move it to the right, turn the wheel to the right (c). The drawings below are for an ordinary straight stitch seam; the centering, however, can also be used for any other stitch. It is also possible to set the needle bar at any desired intermediate position.

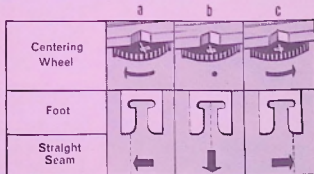


Fig. 27

Being able to change the position of the needle bar makes it possible to sew buttonholes and to sew buttons on.

Adjusting the Thread Tensions

To form a perfect seam, both (upper and lower) threads must be linked tightly between the two layers of cloth that are to be sewn together.

The lower thread tension has been carefully adjusted at the factory and should not be altered (except for certain instances, see page 27). To obtain the correct thread tension, it is usually sufficient to adjust only the tension of the upper thread.

Upper thread Tension.

The numerous positions, numbered from 0 to 9, of the tension regulating "disc" make a very fine adjustment of the thread tension possible. The loosest tension is obtained at 0 and the tightest tension is obtained by setting the disc at 9.

A seam, sewn by the machine, may appear as follows :

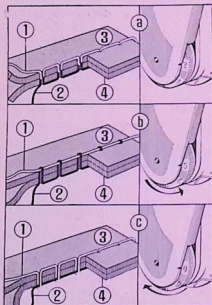


Fig. 28

Fig. a) Good Seam : The upper thread (1) and the lower thread (2) are locked exactly between the two layers of cloth (3 and 4).

Fig. b) Poor Seam : The two threads are locked on top of the material. The upper thread tension is too tight and consequently the upper thread draws the lower thread up to the surface.

To sew a perfect seam, the upper thread tension must be reduced by turning the "disc" in the direction of the arrow.

Fig. c) Poor Seam : The two threads are locked on the underside of the material. The upper thread tension is too weak and the lower thread (2), consequently, holds the upper thread (1) back too much.

To sew a perfect seam the upper thread tension must be increased by turning the "disc" in the direction of the arrow.

The Lower Thread Tension.

The lower thread tension is adjusted at the factory. For all current types of work, the thread tension is regulated by using the upper thread tension device.

For certain special types of work, however, it is necessary to modify the lower thread tension. To do this, the graduated screw (3) shall be turned, using the small screw driver (1) in the slot (2) of the screw. The loosest tension is obtained when the number "0" is opposite the point of the lever (4); it can gradually be increased by turning the screw up to position 3.

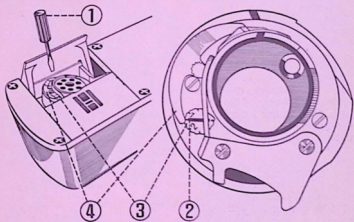


Fig. 29

For ordinary kind of work the lower thread tension is set at "1".

The kinds of work for which the lower thread tension should be altered are mentioned in the chart on the inside of the back cover.

If the lower thread tension was altered for a special kind of work, it should be turned back to "1" as soon as the job has been finished.

Conversion of the Carrying Case into a Working Surface

Open the case as shown on page 5.

Place the ELNA at the right of the open case. Unwind the electric cord of the machine and lower the knee control lever. Raise the bottom of the case in the direction of the arrows.

Fold the flap (1) into the case until it snaps in there. Fold the bottom of the case completely (2) by pushing together both halves of the case (see arrows).

Turn the case over, so that the working surface (3) is on top and the opening (4) is opposite the free arm of the ELNA.

Make sure that the rotary hook cover is closed and slide the case, which has thus been converted into a working surface, against the machine (see arrow), so that the opening (4) fits the free arm.

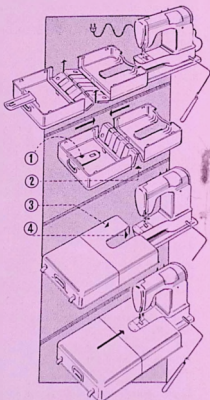


Fig. 30

Inserting and Removing the Material

For all kinds of sewing, consult the Chart on the inside of the back cover which contains all the indications necessary for preparing and adjusting the ELNA.

Before placing the material on the machine, see that :

- the machine has been properly oiled ;
- the presser foot and needle clamp screws are properly tightened (use the large screw driver) ;
- the sizes of needle and thread suit the kind of work to be done ;
- the lower thread crosses the bobbin properly (see Fig. 19 b) ;
- the tensions have been properly adjusted ;
- the pressure of the presser foot, the stitch length, the stitch width and the centering have been set in accordance with the indications given in the chart on the inside of the back cover.

Make sure that the ends of the threads have been drawn about 6 inches to the rear of the machine and the thread take-up lever is in its highest position, then

- place the material underneath the presser foot ;**
- lower the needle into the material by turning the flywheel toward you ;**
- lower the presser foot and start sewing.**

To remove the work, first turn the flywheel toward you until the thread take-up lever is in its highest position, then raise the presser foot ; remove the material to the rear (away from you) and cut off excess thread with the thread cutter (a), located on the cloth presser bar.

Important :

Always turn the flywheel toward you !

When the machine is not being used, place a piece of material over the feed dog and lower the presser foot.

Never operate the machine when it is threaded, or the presser foot has been lowered, unless a piece of fabric is under the presser foot !

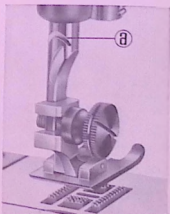


Fig. 31

A. Ordinary Sewing, done without "Elna-discs" and with Standard Presser Feet

All the types of work explained in this booklet can, in principle, be done with the Presser Foot shown at the right. However, to execute a certain type of work for a greater length of time in an easier fashion, it is advisable to use the presser feet specially adapted for these different kinds of work. Recommendations

for the use of these special feet will be found on the following pages. The chart on the inside of the back cover indicates how the machine should be prepared and adjusted.

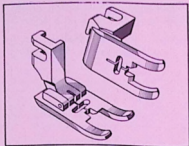


Fig. 32

1. STRAIGHT SEWING

Attach the presser foot. The stitch length must be set in accordance with the kind of work and the thickness of the pieces to be sewn together. To turn a corner, lower the needle into the material at the extremity of the corner, raise the presser foot, turn the material around the needle into the desired position, lower the foot and continue sewing.

Sewing with Elastic Thread.

For adjusting the ELNA see chart on the inside of the back cover. Wind the elastic thread around a bobbin by hand (do not use bobbin winder mechanism). Tighten the upper thread tension and set for a rather long stitch (3-4). While sewing it is important to keep the fabric taut before it moves underneath the presser foot.

For difficult designs it is best to pin a sheet of paper, on which the ornament has been sketched, to the material. While sewing simply follow the design on the paper. After the work has been finished, remove the paper carefully.

Since the material will gather, care should be taken to provide sufficient material for this type of work. For sheer fabrics usually twice the normal (finished) length of the work should be provided for.

Makes 1st fold entire width of fold into

2. HEMMING

To prepare and adjust the machine : see chart on inside of back cover.

Attach the hemmer foot "4" ($5/32''$ wide). To prepare the hem, fold over the edge of the fabric about $1/8''$, for a length of about two inches, then fold another strip about $3/16''$ wide. Lower the needle into the beginning of the hem which has thus been formed ; leave the presser foot up. Stretch the material, in order to introduce the fold into the scroll of the hemmer ; lower the presser foot. Sew. To make a perfect hem, guide the material, so that the scroll of the hemmer is always well filled with fabric (Fig. 33).

A longer stitch length than for ordinary sewing is desirable (about $2\frac{1}{2}$, to $3\frac{1}{2}$).

While sewing hems, a soutache can simultaneously be sewn on by slipping the end of the soutache into the lateral slot of the hemmer foot (Fig. 34).

The hemmer feet which are sold as extra accessories (sizes 2 and 6) are used in exactly the same manner as the size 4 hemmer ; however, the first fold must be adapted to the sizes of their scrolls. Size 2 equals about $5/64''$; size 6 approximates $15/64''$.

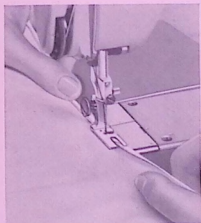


Fig. 33



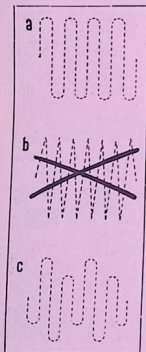
Fig. 34

3. DARNING

To prepare and adjust the machine : see inside of back cover.

To attach the darning foot : see page 13.

For darning, the feed dog must be covered with the darning plate. The material is thus no longer fed by the machine and has to be moved by hand ; the protruding darning plate stretches the material automatically. It is easier to carry out this work by resting the forearms on the working surface and moving the material by stretching it and moving it with the fingers, held as closely as possible to the darning foot.



For all darning jobs it is absolutely necessary to sew tiny stitches in serpentine lines which are parallel and rounded off at the corners (a).

To obtain tiny stitches, run the machine quickly and move the cloth slowly.

Darning with sharp turning points will cause holes at these turning points and result in a job which is less attractive, less strong and less soft and flexible (b).

Reinforcing Worn Out Materials.

To reinforce worn out spots in kitchen linen, sheets, etc., use also serpentine lines. To obtain a soft and almost invisible reinforcement, it is advisable to vary the height of the serpentine turns (c). The strength of the darn can be increased by darning-on a strip of gauze.

Fig. 35

Darning a Hole

a) on cotton and silk fabrics.

First fill in the hole by darning a screen across it from left to right and from right to left, in closely spaced parallel rows. Fasten the stitches well in the side of the material, without overstepping the edge of the hole too much.

To make the darn soft and flexible, make long stitches by running the machine slowly and moving the fabric rapidly with the hands (Fig. 36 a).

Finish the darn by darning back and forth with tiny stitches, making long serpentine turns and varying the height of the turns. Start and finish the darn outside of the first screen (see Fig. 36 b), which will make the darn soft and flexible.

b) on heavy woollen cloth.

It is best to fill in the hole with the same yarn taken from the same material (pulled out of the edges) and laying it across the hole, on the right or wrong side of the material (depending on its appearance). Then darn as shown in Figure 37.

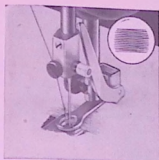


Fig. 36 a

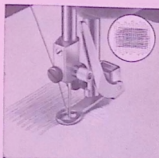


Fig. 36 b



Fig. 37

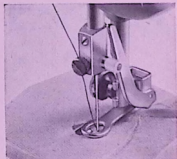


Fig. 38

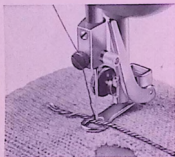


Fig. 39 a



Fig. 39 b

c) on silk stockings.

When darning silk stockings, the upper tension should be tighter than for ordinary darning. Slip the stocking over the free arm. Stretch the stocking underneath the darning foot and sew a row of **tiny stitches** around the hole in order to fasten the meshes. Then darn as shown on page 33, in Fig. 36 a and b.

d) on knitted woollen materials (socks, pull-overs).

Place the work on the machine ; lower the darning foot. Darn around the hole, in order to prevent it from becoming larger. Place the same kind of knitting yarn across the ring of the lowered darning foot and fasten it to the edge of the hole with a few stitches (Fig. 39 a).

Place and stretch the yarn across the hole in the direction of the meshes, then move the material, while darning with long stitches, and fasten the yarn with a few stitches at the other side of the hole. Turn over the yarn in the opposite direction and fasten this turn with a

few stitches ; stretch the yarn again across the hole, and continue in the same manner (Fig. 39 b) until the hole is fully covered with the woollen yarn.

Cut off the yarn. Then darn back and forth in serpentine lines of equal length with small stitches (Fig. 39 c), leaving a space about equal to the width of the yarn between each of the lines.

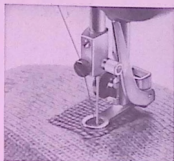


Fig. 39 c

Darning Worn Out Edges of Fabrics

The worn out portions of edges are first filled in with rows of long darning stitches, sewn lengthwise and spaced closely together (a). Then, similarly to the darning of holes, cover the seems, obtained in the aforementioned manner, with closely spaced serpentine lines which run up and down (b). To obtain a neat and even edge, vary the length of the serpentine lines on the inside of the material only. When you reach the edge, turn back rapidly to avoid the formation of knots there.

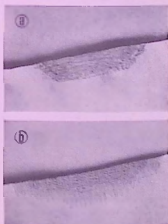


Fig. 40

B. Decorative Work with Standard Accessories (Without "Elna-discs")

Pearl Stitch

Preparation and adjustment : see inside of back cover.

The pearl stitch is a decorative stitch sewn with the ordinary presser foot, a fine upper thread (finest sewing thread, darning thread) and a coarse lower thread (pearl cotton, etc.). The stitch length is set from $2\frac{1}{2}$ to $3\frac{1}{2}$, depending on the thickness of the lower thread. The upper thread tension must be tight. The pearl stitch is formed on the underside of the material ; the design must, therefore, be drawn in reverse on the wrong side of the material (especially for monograms). It is easier to do this kind of work, if a piece of paper, on which the design has been drawn, is fastened to the material, or if the material is stretched in a hoop.

For decorating borders, as well as for making small intricate designs, the presser foot can be replaced with the darning foot and the darning plate. Set the stitch length regulating lever at "0". Run the machine slowly and move the material with your hands.



Fig. 41

Small Cord Stitch

Preparation and adjustment : see inside of back cover.

To make a small cord stitch, prepare the ELNA as for darning ; use a heavier upper thread (sewing thread No. 40 or 60) and a thin lower thread (darning thread). The small cord stitch is formed on the upper surface of the material. The stitches must follow each other very closely, so that the upper thread will be entirely covered by the lower thread, without being pulled into the material. This is done by tightening the upper thread tension. It is advisable to stretch the material in a hoop ; run the machine rapidly and move the material slowly by hand.

For sewing straight lines (hems, etc.), the darning foot and the darning plate may be replaced by the ordinary presser foot. The material will then be moved by the feed dog (stitch length approximately $\frac{1}{8}$).

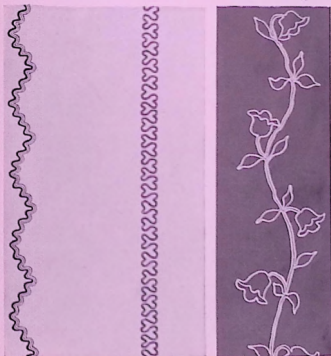


Fig. 42

Shaded Embroidery

Preparation and adjustment : see inside of back cover.

Prepare the ELNA as for darning. Use darning thread for both the upper and lower threads. Stretch the material in a hoop.

First follow the outlines of the sketched design with darning stitches ; then fill in the surfaces with very long darning stitches by moving the material back and forth unevenly (Fig. 43 a). Very soft and flexible work is obtained in this manner. Very attractive work can be performed by varying the colors of the threads. The same kind of embroidery can be used to fill in only the edges of the design with darning stitches, leaving a part of the surface uncovered (43 b).



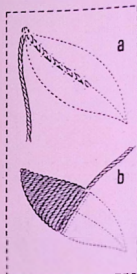
Fig. 43 a



Fig. 43 b

Satin Stitch

Prepare the ELNA as for darning, but without attaching the darning foot. Do not forget to lower the cloth presser bar. Use upper and lower thread of the same kind (darning thread). Stretch the material in a hoop.



First follow the outline of the sketched design with large darning stitches (Fig. 44 a). Then fasten the coarse thread, chosen as trimming (pearl cotton, etc.), from the center toward the end of the design.

To fill in the design, stretch this thread from one side to the other, back and forth, fastening it evenly with a few darning stitches slightly beyond the traced outline (Fig. 44 b).

This work is done best by filling in the design from the left to the right.

Fig. 44

Depending on the quality of the thread or the material, there is a possibility that small knots will form themselves. To prevent this, it may be necessary to increase the lower thread tension, as indicated on the inside of the back cover, since in this case the normal lower thread tension at "1" is no longer sufficient.



Fig. 45

C. Working with Standard Accessories and "Elna-discs"

Simple "Elna-discs"

The simple "discs" 01, 02, 03 and 05 are supplied as standard accessories with every ELNA. A large number of other "discs" can be purchased separately, depending on the kinds of practical work or decorative designs that are desired.

Attach the presser foot ; insert the "disc" you have selected (with the number and design facing upwards) and adjust the machine in accordance with the instructions given on pages 22 and 23 and in the chart on the inside of the back cover. Adjust the width of the design by means of the stitch width regulating lever. To obtain a more or less closely stitched design, set a corresponding stitch length with the stitch length regulating lever.

a) "Elna-disc" "01" for Overcasting.

The "disc" "01" for overcasting produces a zig-zag stitch with intermediate stitches, thus making the overcasting particularly durable.

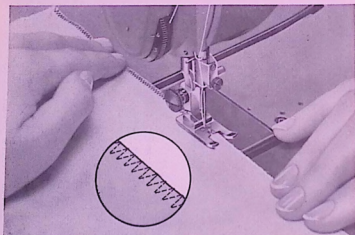


Fig. 46

Place the edge of the material underneath the presser foot in such a manner that the needle, when stitching toward the outside of the fabric, will stitch just beyond the edge of the material. It is best to use stitch width "4".

b) "Elna-disc" "02" for Tricot Material.

The "disc" "02" guarantees full elasticity of the seam in this material by sewing serpentine seams automatically. The length and width of the stitch can be adjusted by means of the corresponding regulating levers.

Prepare the machine for sewing and use darning thread.

"Disc" "02" for tricot material is always used together with the regular presser foot.

Joining two edges of material and inserting a patch (excepting for tricot material).

For sewing together two pieces of material edge to edge, place the two pieces so that there is no gap between their edges and sew along the joint, making the turns of the serpentine line enter equally into both pieces.

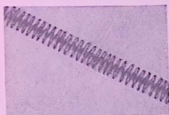


Fig. 47

Before inserting a patch, cut a rectangle or a square around the hole. The patch must have exactly the same size and must be cut from a piece of the same material which has already been washed. Insert the patch and sew the edges together as shown in Figures 47 and 48.

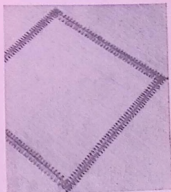


Fig. 48

Sewing Tricot Material



Ordinary Sewing.

Place one piece of material on top of the other and sew serpentine stitches along the edges (a),

or



place one piece on top of the other and baste them together about half an inch from the edge with an ordinary **straight** seam (stitch length $1\frac{1}{2}$); open out the two pieces and sew over the seam in serpentine stitches (b)



Overlapping Seams.

Place one piece on top of the other so that their edges overlap by about half an inch. Sew the seam in serpentine stitches about $\frac{1}{16}$ " from the edge of the upper piece of material. Then cut away the loose edges neatly (c).



Hems.

Fold over the edge of the material twice and make the hem by sewing a serpentine seam along the inside edge (d).

Fig. 49

Patching Tricot Material.

To cover the defective portion fully, cut the patch, to be attached, sufficiently large and, preferably, in a square or rectangular shape. Fasten the patch to the tricot material with several pins, taking care that the ribs of patch and material run in the same direction. Sew closely along the edges of the patch (on the two less elastic sides of same) with serpentine stitches. On the two more elastic sides, the serpentines should be sewn about $\frac{1}{4}$ " from the edges, to prevent "runs" in the knitted material (Fig. 50 a).

Cut off the two protruding loose edges on top of the material: then cut out the defective portion on the under-side of the fabric (Fig. 50 b).

The tricot material will thus remain soft and elastic (Fig. 51).

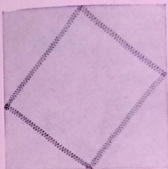


Fig. 50 a



Fig. 50 b

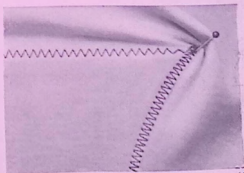


Fig. 51

- c) **Buttonhole "Disc" "03"**. This "disc" is used for sewing buttonholes, sewing on buttons and for all jobs which are known as "zig-zag" sewing.

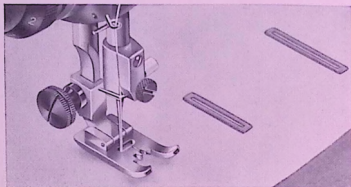


Fig. 52

Buttonholes.

For preparing and adjusting the machine, see the chart on the inside of the back cover.

Attach the **buttonhole foot** and insert the buttonhole "disc" "03". Adjust for a very small stitch length and adhere closely to the following instructions pertaining to the positions of the stitch width regulating lever and the centering wheel. **During this entire operation the centering wheel must remain in its extreme left position.**

- Set the stitch width regulating lever at "2" and sew the first row of stitches of the buttonhole. Having reached the end, bring the needle into the material at the right side of the row just made.
- Raise the foot and pivot the material half a turn around the needle. Lower the foot.
- Let the needle stitch into the material at the left and set the stitch width regulating lever at "4"; then sew for about $\frac{1}{16}$ ".

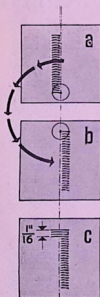


Fig. 53

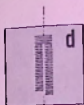


Fig. 53

To strengthen a buttonhole with a soft cord (gimp), thread the cord into the opening (1) at the left of the buttonhole foot (Fig. 54). Then proceed in exactly the same manner as for ordinary buttonholes. The cord will thus be entirely covered with stitches. When the buttonhole is finished, pull slightly both ends of the cord and cut them off close to the buttonhole.

For cutting the buttonhole, use the special buttonhole knife, supplied as standard accessory. Place the material flat on the table and hold it with the left hand, so that it will be properly stretched. Insert the point of the buttonhole knife at one end of the buttonhole opening and cut the material by pushing the knife to the other end (Fig. 55).

d) Let the needle stitch again at the left into the material ; set the stitch width regulating lever at "2" and sew now the second row of stitches of the buttonhole, taking care that it is parallel to the first row, **only a trifle shorter**.

e) Let the needle stitch again at the left into the material ; set the stitch width regulating lever at "4" and sew for about $\frac{1}{16}$ ", thus finishing the buttonhole.

Let the needle stitch again at the left into the material ; set the stitch width regulating lever at "0" and fasten the buttonhole securely with a few straight stitches, holding the material back by hand so that it will not be fed.

Smaller buttonholes can be obtained in the same manner, using the stitch width "1" and "2" and placing the centering wheel exactly half-way between the center and the extreme left positions.

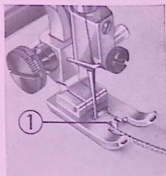


Fig. 54

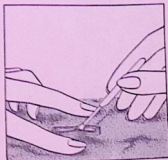


Fig. 55

Button Foot.

For sewing on buttons, snap buttons, hooks and eyes, etc., cover the feed dog with the button plate (small plate with slot) and attach the button foot. The chart on the inside of the back cover explains how to adjust the machine.

Insert the buttonhole "disc" "03", set the stitch length regulating lever at "0" and move the needle bar to its extreme left position with the aid of the centering wheel. Place the button on the material, underneath the button foot; lower the foot; adjust the width of the stitch, so that the needle will descend exactly in the center of each of the two holes of the button, then sew about 6 to 8 stitches. When sewing on four-hole buttons, move the button, after having sewn the first two holes, and sew the other pair of holes in exactly the same manner. To prevent the stitches from unravelling, set the stitch width regulating lever at "0" and lock the stitches by sewing a few straight stitches in the same hole.

Snap buttons as well as hooks and eyes are sewn to the material in the same manner.

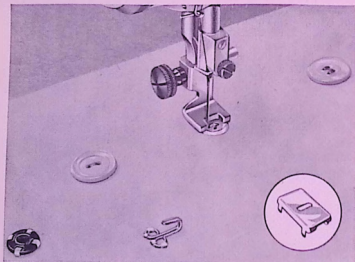


Fig. 56

d) **"Elna-disc" for trimmings.**

The "discs" 01 (overcasting), 02 (tricot) and 03 (buttonholes) are used more than any others, because they are used when doing practical work.

The "disc" 05, which is also supplied as a standard accessory, produces the ornamental design shown on page 23. A great many other "discs" for decorative work can be supplied as extra accessories.

Double "Elna-discs"

The double "disc" 107 enables you to sew a feather stitch completely automatically and is also supplied as a standard accessory.

For adjusting the ELNA, see pages 22, 23 and 25, as well as the chart on the inside of the back cover.

The width of the design can be varied by changing the position of the stitch width lever. It is not necessary to push or to pull the fabric.

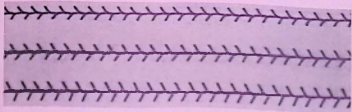


Fig. 57

A few examples of the work done with the numerous other double "discs", which can be supplied on demand, are shown on pages 52 and 53.

To sew very closely stitched designs and for raised stitches it is advisable to use the cording foot, which has an indentation (a), on the underside, as shown at the right.

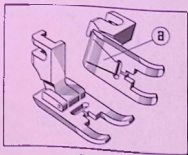
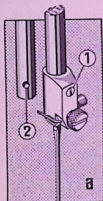


Fig. 58

Twin-Needle Clamp

The twin-needle clamp is used mainly for doing decorative work with "Elna-discs" (see Page 53) or for sewing tucks (see Page 58). To sew with two needles, the machine should be prepared as follows :



a) Changing the Needle Clamp.

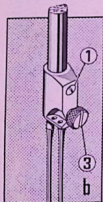
Bring the needle bar to its highest position.

Loosen and withdraw the fastening screw (1), then remove the single needle clamp (a).

Attach the twin-needle clamp so that the screw (1) is at the same height as the hole (2) in the needle bar. Tighten the screw (1) firmly (b).

b) Attaching the Presser Foot.

Attach the cording foot (if making tucks, attach the tucker foot) in accordance with the instructions given on page 13.



c) Inserting the Needles.

Attention : The needles can only then be properly inserted when the needle clamp has already been fastened to the needle bar.

Insert the two needles in the needle clamp with the flat side of the shanks facing the rear, push them upwards as far as they will go, then tighten the needle clamp screw (3) firmly.

The needle clamp can be removed and reattached without necessitating the removal of the needles.

Fig. 59

d) Threading.

Thread both threads separately. Raise the presser foot and bring the thread take-up lever to its highest position. Place the two spools of thread on the spool pins (1). The spool nearest to the flywheel must unwind clockwise, i.e. from the side nearest the machine; the other spool must unwind in the opposite sense, i.e. from the outside. Pass the two threads through the thread guide (2), one after the other, then pass them through the upper tension, on either side of the separating disk (3). Check to see that the threads do not cross.

Insert both threads into the thread take-up lever (4), pass them through the thread guide (5) and thread them individually through the two holes (6 and 7) of the needle clamp.

Next thread the two needles from the front; the thread from the rear hole (6) is to be threaded into the needle at the left, and the thread from the front hole (7) into the needle at the right.

Thread the lower thread (bobbin thread) through the small hole in the shuttle ring (Fig. 16, Point 6) and pick it up as usual, holding both upper threads in the left hand.

Whenever two needles are used, never set the stitch width beyond position "2" when manipulating the stitch width regulating lever (when working with "Elna-discs") and leave the needle centering wheel at its center position. To remind you of this, positions "3" and "4" on the stitch width scale are shown in red.

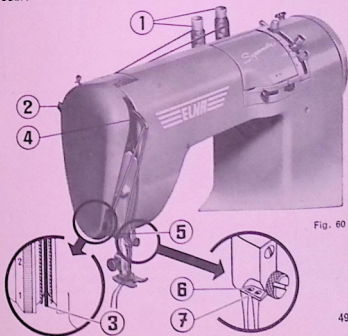


Fig. 60

Extra Accessories

The extra accessories, shown below, can be obtained at all ELNA stores. They can be used for doing many different kinds of work, as explained on the following pages :

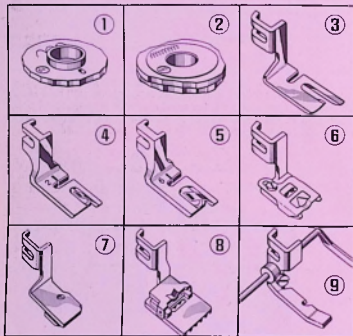


Fig. 61

- | | |
|---------------------------------|---------------------------|
| 1. Various Simple "Elna-discs". | 6. Braiding Foot. |
| 2. Various Double "Elna-discs". | 7. Gathering Foot. |
| 3. Felling Foot. | 8. Tucker Foot. |
| 4. Hemmer Foot 2. | 9. Zipper Foot and Guide. |
| 5. Hemmer Foot 6. | |

D. Working with Extra Accessories

Various Simple "Elna-discs"

In addition to the simple "discs" 01, 02, 03 and 05, which are supplied with the machine as standard accessories (see pages 40 to 47), a large number of other "discs" is available which make it possible to do many kinds of practical and decorative work.

A few of these seams, which are done fully automatically, are shown below. The stitch length of the individual seams can be altered by changing the position of the stitch length regulating lever.

"Elna-disc" No.

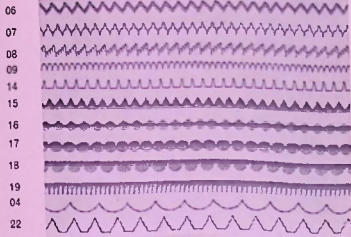


Fig. 62

Important :

When making very closely stitched design, such as the cord stitch, the festoon stitch, etc., neither pull nor push the fabric. It is best to use the **cording foot** which is supplied as a standard accessory (see page 47).

Any **ELNA** sales office will gladly advise you with regard to the large assortment of "Elna-discs" which will enable you to execute the most varied designs.

Various Double "Elna-discs "

As already mentioned on page 22, it is possible to vary the length and the width of the stitches completely automatically by using double "discs", whereas the simple "discs" only cause the variation of the width of the stitch. A greatly assorted selection of double "discs" for many designs is available to all ELNA owners. Any ELNA store will advise you regarding the choice of such "discs", the assortment of which is constantly being increased.

A few of the many designs, which can be made by using double "discs", are shown below.

"Elna-disc"

No.



Fig. 63

For adjusting the ELNA, see pages 22, 23 and 25, as well as the chart on the inside of the back cover. Use the ordinary presser foot.

A glance at the designs, shown above, indicates that "disc" "104" produces a crowfoot design and "disc" "105" a grecian ornament.

Working with Two Needles and with Various Simple and Double "Elna-discs"

To execute decorative designs with two needles, generally use the **ordinary presser foot**. However, for very closely stitched designs (cord stitch, etc.) it is better to use the **cording foot**, which is supplied as a standard accessory (see page 47). **Neither pull nor push the fabric.**

To prepare the ELNA, see the chart on the inside of the back cover.

When working with two needles, it must always be remembered to set the stitch width not wider than at position "2", with the centering wheel at its center position, since otherwise the needles will hit the needle plate and break. Working with two needles can be done with simple "discs" as well as with double "discs".

The following are a few sample designs :

"Elna-disc"

No.

05

07

08

16

103

106

107



Fig. 64

Braiding Foot

To prepare and adjust the ELNA : see chart on the inside of the back cover.

When sewing on braids, soutache or cords, use the braiding foot. By loosening the screw (1), the opening of the guide can be adjusted according to the width of the braid. The braid is passed through this opening.

When doing soutache work, designs with simple or double "discs" can be selected. This permits the production of very attractive work.

It is advisable to sew slowly in order to follow the design easily. When working on sheer fabrics, it is preferable to pin a piece of paper, on which the design has been sketched, to the material and sew both together. The paper can be removed afterwards.

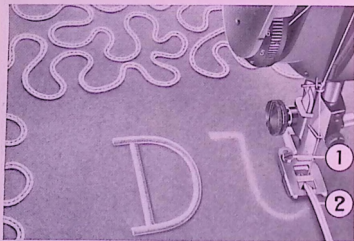


Fig. 65

Felling Foot

Adjust the ELNA as indicated in the chart on the inside of the back cover.

When making a felled seam, two rows of stitches must be sewn.

For the first row of stitches, place the two pieces together, one on top of the other, so that the lower piece protrudes about $\frac{1}{8}$ " beyond the right edge of the top piece. Fold this protruding part of the lower piece over the top piece and place the material on the machine, let the needle enter the material and lower the felling foot. Draw the fold into the opening of the foot and sew. The two pieces are thus stitched together (Fig. 66 a).

To make the second row of stitches, open the two pieces out flat, turn down and flatten the ridge, which has been formed, to the left, then place the material on the machine. Bring the needle into the material and lower the foot. Raise the ridge into the opening of the foot and sew (Fig. 66 b).



Fig. 66 a



Fig. 66 b

Extra Hemmer Feet

Besides the hemmer foot "4", which is supplied as a standard accessory, hemmer feet "2" and "6" are also available. They are supplied separately. These feet are used in the same manner as the hemmer foot "4" (see page 31).

Gathering Foot

Adjustment : see chart on the inside of the back cover.

The fabric to be gathered is placed under the gathering foot as for regular sewing (Fig. 67 a). The ruffles become more pronounced if the upper tension and the stitch length are increased. To make ruffles and sew them to a flat piece of material in one operation (Fig. 67 b), place the piece to be gathered underneath the foot. Fold over the edge of the upper flat piece and slip it into the opening on the side of the foot. Bring the needle into the material and sew a few stitches, holding the ends of the threads. Guide the ruffle with the right hand during sewing. The upper fabric must be fed uniformly into the foot ; under no circumstances must it be held back, since this would cause tiny irregular stitches. It should be kept in mind that the piece to be gathered (ruffle) must be longer than the upper flat piece.

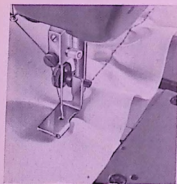


Fig. 67 a

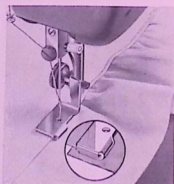


Fig. 67 b

Zipper Foot with Guide

This foot has many applications and can be used with or without the guide.

Without the guide, it is used for sewing close to thick edges, for sewing zippers and for sewing seams which are placed closely together.

The guide is used for sewing at a certain distance from the edge of the material, for sewing a cord into the edge of a piece of fabric (Fig. 68 a) and for quilting, in which case it is possible, easily to sew seams which are parallel to each other.

When quilting, it is best to make the first seam in the middle of the material. Then loosen the screw (1) of the foot, adjust the guide in accordance with the distance desired between the seams and tighten the screw again. The following seams are sewn by leading the first seam along the guide. The guide must not press against the material, since this would prevent its free movement (Fig. 68 b). Afterwards, the same procedure shall be done crosswise.

When sewing along the edge of a piece of material, or when sewing-in a cord, the guide must, however, be completely lowered until it rests on the free arm (Fig. 68 a).

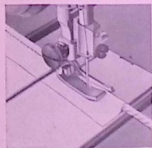


Fig. 68 a

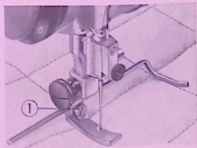
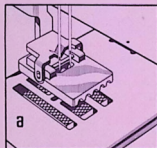


Fig. 68 b

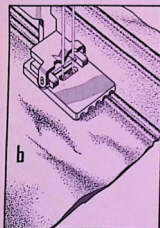
Tucker Foot



To prepare and adjust the machine : see chart on the inside of the back cover.

For sewing tucks, attach the twin-needle clamp and the tucker foot (a).

Prepare the machine as for ordinary straight sewing and place the material on the machine in the usual manner.



To make very close tucks, use the grooves of the tucker as a guide. The tucks are always formed in the center groove. To sew them closely together, place the first tuck, as soon as it has been completed, in the next groove, so that the second tuck can be formed in the center groove of the tucker. Fig. b shows a third tuck being sewn.

Fig. 69

Minor Disorders and their Remedies

Minor disorders which may occur, may be due to the following reasons. They can easily be avoided by adhering to the directions for the use of your machine.

The Upper Thread Breaks :

The upper thread tension is too tight (see Page 26).

The darning thread does not have a left twist (see Page 14).

The machine is not threaded correctly (see Page 18).

The thread is of poor quality, or it is knotted.

The thread has become too dry due to long storage (see Page 14).

The thickness of the thread is not suitable for the kind of material.

The needle is not of the style 15×1 (system 705) ; it is of poor quality, poorly polished or bent (see Page 17).

The needle has not been inserted correctly ; the long groove must face the person sewing.

The machine needs cleaning.

The Lower Thread Breaks :

The lower thread tension is too tight (see Pages 26 and 27).

The thread has not been wound evenly on the bobbin.

The thread has not been brought up correctly above the needle plate.

The Machine Skips Stitches :

The machine is incorrectly threaded.

The needle is not of the style 15×1 (system 705); it may be bent.

The needle is not fully inserted in the needle clamp.

The needle has been incorrectly inserted ; the long groove must face the person sewing.

The thread is too thick for the size of the needle.

The Stitches Are Uneven :

The two threads do not link in the center of the material ; check the tensions.

Either of the two thread tension devices are clogged (with pieces of thread).

The machine is incorrectly threaded (check upper and lower thread).

The lower thread has not been properly wound on the bobbin.

The bobbin does not unwind counter-clockwise.
The needle does not suit the size of thread or the type of material.

The Material is Fed Unevenly or Insufficiently :

The needle plate has not been inserted properly.
The feed dog is clogged with dirt (teeth should be cleaned).
The pressure of the presser foot is not correct.

The Needle Breaks :

The material has been pulled during sewing; the needle, being bent, hits against the needle plate, close to the stitch hole.
The needle has been incorrectly inserted, or it is bent.
The needle size is too fine for the type of fabric or thread.
The thread is knotted.
The upper thread tension is too tight.
The needle is poorly centered and strikes the needle plate or darning plate.

The Machine Runs Slowly :

The machine has not been oiled for quite some time (see lubrication chart on page 11).
Lint and pieces of loose thread have collected underneath the needle plate and in the rotary hook (should be cleaned as described on page 12).
The machine is too cold (should be placed in a warm room for a while before being used).

The Rotary Hook is Noisy :

The rotary hook is too dry (should be lubricated with oil).
The rotary hook is clogged (with remains of thread or lint).

The Machine (Rotary Hook) is Blocked :

A loose piece of thread may have become stuck in the rotary hook. Turn the flywheel by hand in both directions, despite the stiff resistance, in order to cut the thread. Remove the remains of the thread. Oil the rotary hook and run the machine without thread for a short while.

The "Elna-disc" Cannot be Inserted :

Set the stitch length and stitch width regulating levers at "0".

About Your Guarantee :

Your guarantee certificate should be kept in a safe place.



Please note that your guarantee becomes null and void, if the machine is not cared for properly, or if it is repaired or tampered with by any unauthorized person. The very explicit instructions for use, contained in this booklet, should, therefore, be strictly adhered to. Moreover, you can be sure of satisfactory service by calling on us, should any adjustments become necessary.



CHART

How to Prepare the
ELNA for Different
Sewing Jobs.



The bobbin does not unwind counter-clockwise.
The needle does not suit the size of thread or the type of material.

The Material is Fed Unevenly or Insufficiently:

The needle plate has not been inserted properly.
The feed dog is clogged with dirt (teeth should be cleaned).
The pressure of the presser foot is not correct.

The Needle Breaks:

The material has been pulled during sewing; the needle, being bent, hits against the needle plate, close to the stitch hole. The needle has been incorrectly inserted, or it is bent. The needle size is too fine for the type of fabric or thread. The thread is knotted.
The upper thread tension is too tight.
The needle is poorly centered and strikes the needle plate or darning plate.

The Machine Runs Slowly:

The machine has not been oiled for quite some time (see lubrication chart on page 11).
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The Rotary Hook is Noisy:

The rotary hook is too dry (should be lubricated with oil).
The rotary hook is clogged (with remains of thread or lint).

The Machine (Rotary Hook) is Blocked:

A loose piece of thread may have become stuck in the rotary hook. Turn the flywheel by hand in both directions, despite the stiff resistance, in order to cut the thread. Remove the remains of the thread. Oil the rotary hook and run the machine without thread for a short while.

The "Elna-disc" Cannot be Inserted:

Set the stitch length and stitch width regulating levers at "0".

Work	Sewing Foot	Small Plate (Accessory)	Needle			Upper Thread Tension	Lower Thread Tension	Thread lower thread through hole in shuttle ring	Stitch Length	Stitch Width	Centering Wheel	Work Described on Page
			European (705) New	Old	American (15 x 1/2)							
Normal Sewing . . .	Presser foot	—	80/90	11/14	B / 1/2	3-8	1	no	2-3 1/2	0	centered	30
Sewing Sheer Fabrics	Presser foot	—	80	11/12	B	2-4	1	no	1 1/2 - 2 1/2	0	centered	30
Sewing with Elastic thread	Presser foot	—	80	11/12	B	3-7	1/2	no	3-4	0	centered	30
Sewing on Tricot . .	Presser foot	—	60/70	7/10	00/0	2-4	1	no	1/4 - 3/4	4	centered	41
Hemming	Hemmer foot	—	80/90	11/14	B / 1/2	3-8	1	no	2 1/2 - 3 1/2	0	centered	31
Darning	Darning foot	Darning plate	60/70	7/10	00/0	0-1 1/2	1	no	0	0	centered	32
Pearl Stitch	Presser foot	—	80/90	11/14	B / 1/2	3-8	0-1 1/2	no	2 1/2 - 3 1/2	0	centered	36
	(Darning foot)	(Darning plate)	80/90	11/14	B / 1/2	3-8	0-1 1/2	no	0	0	centered	36
Small Cord	Darning foot	Darning plate	80/90	11/14	B / 1/2	5-8	1/2	no	0	0	centered	37
	(Presser foot)	—	80/90	11/14	B / 1/2	5-8	1/2	no	1/4	0	centered	37
Shaded Embroidery .	Darning foot	Darning plate	70/80	9/12	0/B	1-3	1	no	0	0	centered	38
Satin Stitch	—	Darning plate	70/80	9/12	0/B	3-5	1 1/2 - 2	no	0	0	centered	39
Working with Simple "Discs"												
wide stitches . . .	Presser foot	—	70/80	9/12	0/B	1-5	1	no	1/2 - 2	1-4	centered	40
close stitches (cord type)	Cording foot	—	70/80	9/12	0/B	1 1/2 - 3 1/2	1 1/2 - 2 1/2	no	1/4 - 1 1/2	2-4	centered	40
with two needles . .	Cording foot	—	70/80	9/12	0/B	1-5	1 - 2 1/2	yes	1/4 - 2	2	centered	53
Buttonholes	Buttonhole foot	—	70/80	9/12	0/B	2-3 1/2	1 1/2 - 2 1/2	no	1/4 - 3/4	2-4	at left	44
Buttons	Button foot	Button plate	70/80	9/12	0/B	2-3 1/2	1 1/2	no	0	depends on button	at left	46
Working with Double "Discs"												
wide stitches . . .	Presser foot	—	70/80	9/12	0/B	1-5	1	no	A	1-4	centered	47
close stitches . . .	Cording foot	—	70/80	9/12	0/B	1-5	1 - 2 1/2	yes	A	2	centered	53
with two needles . .	Cording foot	—	70/80	9/12	0/B	1-5	1 - 2 1/2	yes	A	2	centered	53
Braiding	Braiding foot	—	90	13/14	1/2	4-8	1	no	2 1/2 - 3 1/2	0	centered	54
Felling	Felling foot	—	90	13/14	1/2	4-8	1	no	2-3	0	centered	55
Gathering	Gathering foot	—	80/90	11/14	B / 1/2	5-9	1	no	3-4	0	centered	56
Quilting and Zippers	Zipper foot	Guide	80/90	11/14	B / 1/2	3-8	1	no	2-3 1/2	0	centered	57
Tucking	Tucker foot	—	80	11/12	B	3-6	1 1/2 - 2	yes	2-3	0	centered	58

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